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REPORT OF THE MONITORING WELL INSTALLATION AND WELL DECOMMISSIONING AT U.S. SCRAP CHICAGO, ILLINOIS

U.S. EPA ID: ILD980679484
TDD: F05-8611-193
PAN: FIL0102VB
FEBRUARY 25, 1991

Pursuant to TDD F05-8611-193, Ecology and Environment, Inc., Field Investigation Team (FIT) subcontracted Fox Drilling Company to install monitoring wells at and around the U.S. Scrap site, which is located in Chicago, Illinois. The installation was completed in 1987. On March 22, 1989, FIT was notified that monitoring well FIL010206, which is located on Metropolitan Sanitary District of Chicago (MSDC) property, was damaged. The well was damaged by a bulldozer operated by an employee of Guerra Construction Company, a subcontractor of MSDC.

FIT members traveled to the site to assess the damage to the well on March 22, 1989. FIT found that the concrete surface pad was destroyed, and that the 8-inch-diameter protective casing and the stainless steel riser pipe were bent at an angle of approximately 60°. After assessment of the damage, FIT recommended that the well be decommissioned and that a new well be installed. Guerra Construction Company was held financially liable for the decommissioning and the construction of the new well.

Guerra Construction Company awarded Fox Drilling Company the contract to complete the work, and the work was performed on August 9 and 10, 1989. The new well was completed by drilling a boring with 6 1/4-inch inside diameter (ID) hollow-stem augers to a depth of 22 feet below the surface of the ground. A continuously wire wound stainless steel well screen, 2 inches in diameter and 10 feet in length, with a slot size of 0.010 was then set at a depth from 18.5 to 8.5 feet below the surface of the ground. The well screen was attached to the end of a 10-foot length of 2-inch ID schedule 5 stainless steel riser pipe with schedule 40 threaded flush joints. Sand filter pack material was then poured down the annulus of the borehole to form a filter pack around the screen. The filter pack was placed so that its upper surface was 8 feet below ground level. As the filter pack material was poured down the annulus, the augers were pulled. After the addition of the filter pack, a high-solids bentonite grout was added to the annulus through a tremie pipe. When the grout level reached the surface of the ground, the remaining augers were pulled from the borehole. Grout was again added

to raise the grout level in the borehole to ground level. A 4-inch-square cross-section stainless steel protective casing was then placed in the borehole over the well riser pipe, and a concrete pad was poured around the protective casing (see Figure 1 for a diagram of the new well).

Following the installation of the new monitoring well, the damaged well was decommissioned in the following manner. A cable from the power winch on the drill rig was wrapped around the protective well casing. The winch was then used to pull the protective casing from the ground. The cable was then wrapped around the riser pipe and the winch was used to pull the riser pipe from the ground. The 6 1/4-inch ID augers were used to overdrill the borehole to remove the remaining grout. A fresh slurry of portland cement with bentonite added was then tremied down the annulus of the augers. As the augers were pulled from the ground, cement slurry was added to the borehole to maintain the slurry level at ground level. Upon drying, the cement formed a plug where the borehole had previously existed.

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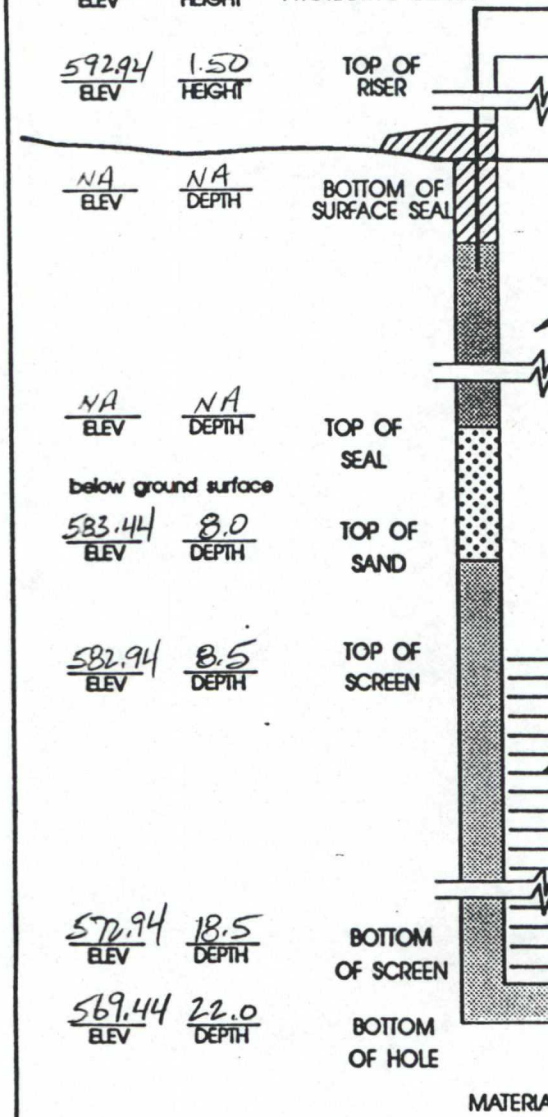
International Specialists in the Environment

WELL NUMBER: FIL0102-06 Replacement

MONITORING WELL AS-BUILT DIAGRAM

SITE U.S. Scrap
TDD/PAN FOS-8611-163
WELL DRILLING CONTRACTOR Fox Drilling
GEOLOGIST Craig Smith / John Nordine
DATE COMPLETED August 10, 1989
LOCATION OF WELL

DATE INSTALLED 8/9/89



593.77 ELEV / 2.33 HEIGHT — TOP OF PROTECTIVE COVER
592.94 ELEV / 1.50 HEIGHT — TOP OF RISER
NA ELEV / NA DEPTH — BOTTOM OF SURFACE SEAL
NA ELEV / NA DEPTH — TOP OF SEAL
below ground surface
583.44 ELEV / 8.0 DEPTH — TOP OF SAND
582.94 ELEV / 8.5 DEPTH — TOP OF SCREEN
572.94 ELEV / 18.5 DEPTH — BOTTOM OF SCREEN
569.44 ELEV / 22.0 DEPTH — BOTTOM OF HOLE

PROTECTIVE COVER: Square stainless steel
LOCK NUMBER: A-796
GROUND ELEVATION (MSL): 591.44 FT.
SURFACE SEAL: Volclay Grout
RISER TYPE: 304 Sch 5 S.
DIAMETER: 2 IN.
GROUT: Volclay Grout
ANNULAR SEAL: Volclay Grout
FILTER PACK: #5 Sieved washed silica sand
SCREEN DIA.: 2 IN. LENGTH: 10 FT.
TYPE: 304 S.S. Continuously Wound
SLOT SIZE: 0.010 IN.
BOREHOLE DIAMETER: 10 1/4 IN.
DRILL METHOD: HSA w/ 6 1/4" ID
DATE DEVELOPED:
METHOD OF DEVELOPEMENT:

MATERIALS USED

ITEM	QUANTITY